

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Public Health

journal homepage: www.elsevier.com/locate/puhe

Themed Paper— Original Research

Examining the frequency and nature of gambling marketing in televised broadcasts of professional sporting events in the United Kingdom

R.I. Purves^{a, *}, N. Critchlow^a, A. Morgan^a, M. Stead^a, F. Dobbie^b^a Institute for Social Marketing and Health, Faculty of Health Sciences and Sport, University of Stirling, FK9 4LA, UK^b Usher Institute, University of Edinburgh, Edinburgh, EH8 9AG, UK

ARTICLE INFO

Article history:

Received 12 September 2019

Received in revised form

23 January 2020

Accepted 14 February 2020

Available online 2 April 2020

Keywords:

Gambling
Sponsorship
Sports
Television
Marketing
Advertising

ABSTRACT

Objective: Gambling operators in the United Kingdom have introduced a voluntary ban on adverts broadcast during televised sport before 21:00 (the ‘whistle-to-whistle’ ban). To inform debates around the potential effectiveness of this ban, we examine the frequency and nature of gambling marketing in televised broadcasts across professional sporting events.

Study design: Frequency analysis of verbal and visual gambling marketing references during television broadcasts of football ($n = 5$), tennis, Formula 1, boxing and rugby union (each $n = 1$) from 2018.

Methods: For each gambling reference, we coded: whether it appeared in-play or out-of-play; location (e.g. pitch-side advertising); format (e.g. branded merchandise); duration (s); number of identical references visible simultaneously; brand; and presence of age restriction or harm-reduction messages.

Results: Boxing contained the most gambling references, on average, per broadcast minute (4.70 references), followed by football (2.75), rugby union (0.55) and tennis (0.11). Formula 1 contained no gambling references. In boxing, references most frequently appeared within the area-of-play. For football and rugby union, references most frequently appeared around the pitch border or within the area-of-play (e.g. branded shirts). Only a small minority of references were for adverts during commercial breaks that would be subject to the whistle-to-whistle ban (e.g. 2% of references in football). Less than 1% of references in boxing and only 3% of references in football contained age restriction or harm-reduction messages.

Conclusions: As gambling sponsorship extends much beyond adverts in commercial breaks, the ‘whistle-to-whistle’ ban will have limited effect on gambling exposure. Gambling sponsorship activities rarely contain harm-reduction messages.

Crown Copyright © 2020 Published by Elsevier Ltd on behalf of The Royal Society for Public Health. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

In the United Kingdom (UK), it is estimated that there are two million problem gamblers or individuals at risk of problem gambling.¹ One factor suggested to drive gambling is exposure to marketing.² In the UK, the introduction of the Gambling Act (2005) permitted gambling marketing across all forms of media, resulting in a dramatic expansion of gambling marketing activity.³ Sport sponsorship is a particularly effective form of marketing that allows brands to be associated with, and capitalise on, the emotional connections that consumers have with teams and events.^{4–6}

Gambling sport sponsorship has been highly prevalent in recent years. In the 2018/19 football season, over half of the clubs in the English Premier League (EPL) and English Championship, and one-third of teams in the Scottish Premier League (SPL), had gambling companies as shirt sponsors.⁷ Moreover, all four professional leagues and both the domestic cup competitions in Scotland, and three of the four professional leagues in England were sponsored by a gambling operator.⁸

Sponsorship of football teams and events provides a high-profile platform for exposure to gambling marketing. A study of the British Broadcasting Corporation's (BBC) Match of the Day programme—a popular free-to-air TV show providing highlights of EPL fixtures—found that viewers were exposed to over 250 instances of gambling marketing per-episode.⁹ This was despite the fact the

* Corresponding author.

E-mail address: r.i.purves@stir.ac.uk (R.I. Purves).

programme is broadcast on a non-commercial channel (i.e. does not feature explicit adverts in commercial breaks). Such exposure is also true for international football matches. For example, 17% of all advertising shown during coverage of the 2018 World Cup on a commercial television channel in the UK was for gambling operators.¹⁰ The heavy involvement of gambling companies in football has been described as the 'gambification of sport', with some young men reporting that they cannot watch football without placing multiple bets.^{11,12}

Research suggests that exposure to gambling sports sponsorship is associated with a variety of consumer reactions and outcomes. These include increasing knowledge of gambling brands, normalising gambling as an everyday activity, encouraging feelings of greater control over betting outcomes, and stimulating sign-up with more than one betting provider.^{13–15} Exploratory research into gambling sponsorship during televised sport has also found that exposure to such marketing activities may encourage gambling among problem and recovering problem gamblers.¹⁶

In addition, several studies have shown that many of the gambling products that are advertised during live football are for complex events that may mislead consumers about the likelihood of winning, resulting in high profit margins for the bookmakers.^{17,18}

There has been growing public concern and political pressure over the volume and frequency of gambling marketing in televised sports, and the potential impact it may have on younger viewers.^{19,20} In response, the Industry Group for Responsible Gambling (IGRG) has amended its Gambling Industry Code for Socially Responsible Advertising to include a ban on all commercial gambling adverts during pre-watershed (21:00) televised sport.²¹ The restriction will begin 5 min before the event and end 5 min after it finishes. The proposed restriction also prohibits betting adverts on highlights shows and replays of sporting events shown before 21:00, and an end to bookmaker sponsorship of pre-watershed sport programmes (albeit not sponsorship of teams participating in the events screened). The voluntary restriction was proposed by the IGRG after they reviewed the previous version of the Gambling Industry Code²² and was adopted industry-wide from 1st August 2019, coinciding with the start of the 2019/20 football season in England and Scotland.

The IGRG's voluntary ban only applies to adverts shown during certain parts of the broadcast, for example during commercial breaks (e.g. at half-time). This means that other high-profile forms of gambling marketing (e.g. pitch-side advertising and shirt sponsorship) continue to be permitted throughout the broadcasts, including during the sporting action when audience attention is likely to be most focused. To examine to what extent (if at all) the proposed voluntary restriction will limit exposure to gambling marketing, and to inform debates around its potential effectiveness, we therefore examine the frequency and nature of gambling

marketing in televised broadcasts from a range of professional sporting events.

Methods

Design

A frequency analysis of verbal and visual references to gambling observed during television broadcasts of football, tennis, Formula 1, boxing and rugby union in the UK. The design was informed by previous research into alcohol sponsorship of English club football,²³ the UEFA EURO 2016 football tournament⁶ and Formula 1 racing.²⁴ Similar methods have also been used to assess frequency of alcohol and gambling marketing references in Australian sport broadcasts.^{25,26}

Selection of broadcasts

A purposive sample of professional sporting events ($n = 9$) were recorded as broadcast in the UK on either public service (e.g. BBC) or commercial broadcasters (e.g. Sky Sports or BT Sports) (Table 1). The sample included five live football broadcasts (including top-flight league football in England and Scotland, continental club football and international football) and broadcasts of four other sports: rugby union, tennis, boxing and Formula 1. A larger sample of football matches was selected because of its position as the most popular sport in the UK, both in-person and on television.

All the selected programmes were recorded in their entirety, using recordable DVD players or an on-demand TV service available for academic institutions (Box of Broadcasts). Where relevant, each recording included normal playing time (e.g. the full football match), added time, extra time, pre-and postevent interviews and discussion, analysis during sport breaks (e.g. half-time) and any commercial breaks. The recordings did not include any content that was not part of the main scheduled broadcast (e.g. content on on-demand television and content accessible through interactive television).

Defining gambling references

Consistent with previous research into alcohol marketing, a gambling reference was defined as any verbal or visual reference to gambling or to a gambling brand, lasting 1 s or more, during the broadcast programme or commercial break.⁶ A reference was counted each time it appeared, irrespective of whether it had been previously seen (e.g. pitch-side advertising board seen in-play first and then again in a replay). A new reference was counted each time the camera angle changed, even if the reference source remained the same (e.g. pitch-side advertising first viewed from behind the

Table 1
Sample of recorded sporting events.

Sport	Competition	Fixture	Date and time	Broadcast channel	Length of broadcast
Football	English Premier League	West Ham United vs Manchester United	Sat 29th September 2018, 12:00	BT Sport	168 min 53 s
Football	English Premier League	Bournemouth vs Crystal Palace	Mon 1st October 2018, 19:00	Sky Sports	242 min 40 s
Football	Ladbrokes Scottish Premiership	Rangers vs Celtic	Sun 11th March 2018, 11:30	Sky Sports	148 min 53 s
Football	UEFA Champions League	Tottenham Hotspur vs Barcelona	Wed 3rd October 2018, 18:30	BT Sport	213 min 53 s
Football	International Friendly	England vs Italy	Tue 27th March 2018, 19:30	ITV 1	170 min 9 s
Tennis	French Open	Rafael Nadal vs Dominic Thiem	Sunday 10th June 2018, 13:30	ITV 1	245 min 20 s
Rugby	RBS Six Nations	Scotland vs England	Sat 24th February 2018, 16:00	BBC One	185 min 8 s
Formula 1	F1 World Championship	British Grand Prix	Sun 8th July 2018, 13:40	Channel 4	170 min
Boxing ^a	World Cruiserweight title fight	Tony Bellew vs Oleksandr Usyk	Sun November 11th 2018, 09:00	Sky Sports	76 min 18 s

^a One highlights programme featuring a full boxing match was recorded in its entirety as broadcast on the satellite pay-per-view channel Sky-Sports on November 11th 2018. This broadcast did not feature the accompanying matches (known as the 'undercard'), which were included when the programme originally aired on November 10th 2018 beginning at 18:00.

goal and then again when the angle reverted to the wide angle). A new reference was also counted if a source went out of shot for more than a second (e.g. if the camera panned away from the pitch-side advertising and back again).

If multiple different references were presented at the same time (e.g. static and electronic pitch advertising), each was recorded as a separate reference. If multiple identical references were visible at the same time (e.g. if the same brand name or slogan appeared multiple times around the border of a football pitch), they were recorded as 'identical references visible at the same time'. The only exception to this occurred when gambling marketing appeared as a shirt sponsor in a multiple-participation (team) sport, such as football. Coding each brand every time it appeared on players' shirts would have been prohibitively slow, therefore if multiple references to different gambling brands of the same format were visible (e.g. two different gambling sponsors visible on players' shirts at the same time), these were coded as 'multiple brands'.

Codebook variables

All gambling marketing references were captured using a codebook adapted from studies examining alcohol marketing in professional televised football.⁶ Each reference was coded on a series of nominal and continuous criteria (Table 2).

Procedure and inter-rater reliability

An initial codebook was piloted on one of the sampled broadcasts, and revised based on discussion between the researchers. All nine broadcasts were systematically coded in separate Microsoft Excel worksheets by AM and RP. To establish inter-rater reliability, AM and RP both independently coded part of one football broadcast. A football match was chosen for inter-rater reliability as this represented the most broadcasts sampled. Only a section of the broadcast was coded because of the high levels of inter-rater reliability shown in previous applications of the codebook.⁶ Both researchers coded 30 min of footage (15 min of pre-match and 15 min of in-play) and discussed any discrepancies. After discussion, inter-rater reliability was established through percentage agreement on the number of references coded for each of the categorical variables (e.g. number of references in the pre-match), consistent with previous applications.⁶ When computed across each section of the codebook, there was high agreement for broadcast segment (100% agreement), reference type (100%), reference location (94%), reference format (97%), content of the reference (100%) and which brand was featured (94%). These estimates exceed the suggested 70% threshold for acceptable inter-rater agreement using the percentage measure²⁷ and are consistent with previous uses of this codebook.⁶ We also used independent sample *t*-tests to examine any

Table 2
Codebook variables and definitions.

Variable	Definition(s)
Time of reference	Recorded in hours, minutes and seconds, using the start of the broadcast as the 00:00:00 reference.
In or Out of play	Broadcast segment was recorded as one of: (1) in-play—appeared during the sporting action; (2) out-of-play—did not appear during the sporting action but appeared during an advertising break or studio-based commentary
Location	One of: (1) stadium crowd; (2) within designated sporting arena (e.g. on match shirt or on Formula One car; (3) interview or press area; (4) border of sporting area-of-play (e.g. around outside of football pitch); (5) on-screen graphics; (6) sponsorship lead-in—short video introductions featuring the tournament sponsors which begin or end a segment of the broadcast; (7) TV studio; (8) stadium or arena structure—any temporary or fixed features in the stadium not covered in other categories (e.g. sponsorship boards on upper tiers); (9) prerecorded video segments (e.g. highlights of other matches); (10) off-screen verbal references (e.g. match commentator); and (11) other.
Type	Recorded as visual (e.g. advertising board), verbal (e.g. commentator reference) or both (e.g. commercial advert with voiceover).
Format	One of: (1) static advertising fixed in location (e.g. logos on interview boards); (2) electronic advertising full coverage—instances of electronic/dynamic advertising which covers all the available pitch-side boards; (3) electronic advertising part coverage—instances of electronic/dynamic advertising which only covers part of available pitch-side boards; (4) commentator or broadcast reference (e.g. 'Man of the match brought to you by Ladbrokes'); (5) fan, supporter or other reference; (6) branded merchandise—any item that displays a brand logo, slogan or image; (7) integrated on-screen graphic—such as logos used to transition between broadcast sections (e.g. into match replays, opening credits); (8) sponsorship lead-in—short video introductions featuring the tournament sponsors which begin or end a segment of the broadcast; (9) commercial advert and (10) other.
Duration	Total duration the reference lasted for (seconds).
Number of identical references visible at same time	The maximum total number of identical references visible on screen at any one point, not the maximum number visible across the total duration of the reference.
Nature of the alcohol brand reference	Generic references to gambling where there was no obvious brand link (such as commentators mentioning that fans or players might 'want to take a gamble') were excluded.
Gambling brand featured	If a direct or indirect brand reference, then the name of the gambling brand depicted was recorded.
Type of gambling referenced	One of: (1) bookmakers (e.g. sports betting); (2) gaming; (3) lotteries; (4) mobile content; (5) online bingo; (6) casino or card games; (7) pools; (8) other or (9) multiple types of gambling
Brand name logo referenced	Whether or not the brand name or logo was visible
Brand slogan or tagline referenced	Whether or not the brand's slogan or tagline was visible (e.g. Betway—For the love of the game).
Method of gambling references	Whether or not it makes reference to a method for taking part in gambling (e.g. shows a mobile application or link to a Web site).
Gamble referenced	Whether or not the reference mentions a specific bet or gamble (e.g. next goalscorer, total number of corners).
Event relevant gamble referenced	Whether or not the reference mentions a bet related to the current broadcasted event (e.g. Man City to win 2-1 now 4/1).
Social media link referenced	Whether or not the reference alludes to related social media activity (e.g. Twitter logo or featured hashtag).
Indirect reference	Whether or not the reference is indirect in nature (e.g. although a brand name did not appear, the brand was still identifiable from other signifiers such as phrases from the brand slogan, colour and typeface).
Generic reference	Whether or not the reference mentions gambling activity broadly without reference to a brand (e.g. commentator referencing the odds of a team winning or describing another team as favourites).
Harm reduction message	Whether or not the reference contains a message to gamble responsibly
Age restriction message	Whether or not the reference contains an 18+ message

differences in average number of identical references identified and duration of references, and found no significant differences ($t = 0.17$; $P = 0.87$ and $t = -0.41$; $P = 0.97$, respectively).

Data analysis

Data were analysed using SPSS version 23 (SPSS Inc). All analyses were computed separately by sport (e.g. football or rugby union). For each broadcast, frequencies and percentages calculated for: the total number of gambling references; broadcast segment (in-play vs out-of-play); type of reference (verbal, visual or both); location of references (e.g. area-of-play); format of references (e.g. branded merchandise); gambling brands referenced; and the content of references (e.g. logos, signposts to gamble, harm-reduction messages). Range, medians and sums were computed for the duration of references and number of identical references visible at the same time.

For each broadcast, we calculated the average number of gambling references per broadcast minute (total number of references divided by the length of the broadcast [in min]). This was then converted into the estimated frequency of gambling marketing references in seconds (number of seconds in a minute [60] divided by the average number of references per minute). As the length of each broadcast was dictated by the sport and scheduled time allocated to the programme, these metrics enabled us to compare across sport and broadcast types. For football, where multiple television broadcasts were captured, the average number

of references per minute and estimated frequency of references (in seconds) was computed for each television broadcast separately and for a combined total. We did not conduct any inferential tests of these metrics because of the limited size, particularly for the non-football sports where only one broadcast was captured for each.

Results

Football

We recorded 2595 gambling marketing references across the five football matches, an average of 519 per broadcast (Table 3). Across the five matches, gambling marketing references appeared, on average, 2.75 times per broadcast minute; equivalent to once every 21 s. The median duration of references was 5 s. Most references (77%) featured in-play and the most popular location of references was border-of-play (38%), for example static pitch-side adverts. The most popular format of references was branded merchandise (41%), principally due to sponsor logos on players' shirts (Fig. 1). Gambling brand logos appeared in 99% references and the most featured gambling brand was Betway (27%, sponsor of West Ham United football team). Harm-reduction and age-restriction messages appeared in 3% references, but were largely confined to commercial adverts.

There were differences between football broadcasts depending on the competition and teams featured (Table 4). There was a high volume of gambling marketing references in games from the EPL

Table 3
Gambling references in the televised sporting broadcasts.

	Type of broadcast				
	Boxing (n = 1 broadcast)	Rugby union (n = 1 broadcast)	Tennis (n = 1 broadcast)	Football (n = 5 broadcasts)	Formula 1 (n = 1 broadcast)
Characteristics of references					
Total number of separate references	358	101	26	2595	0 ^e
Average references per match	N/A ^a	N/A ^a	N/A ^a	519 ^b	—
Average references per broadcast minute	7.00	0.56	0.11	2.75 ^c	—
Estimated frequency of references (s)	12	106	565	21 ^d	—
References in-play (%)	47	92	96	77	—
References out-of-play (%)	53	8	4	33	—
Visual references (%)	99	100	0	97	—
Verbal reference (%)	1	0	4	>1	—
Both verbal and visual reference (%)	0	0	96	3	—
Most frequent location of references (%)	Area-of-play (48)	Border-of-play (98)	Sponsor lead-in (85)	Border-of-play (38)	—
Most frequent format of references (%)	Static ad (73)	Static ad (93)	Sponsor lead-in (85)	Branded merch. (41)	—
Number of different brands referenced	6	1	2	31	—
Brand referenced most frequently (%)	William Hill (73)	Lotto (100)	Bet365 (85)	Betway (27)	—
Range duration references (s)	1–296	1–35	5–30	1–267	—
Median duration references (s)	9	2	7	5	—
Range number of identical references	1–40	1–1	1–1	1–30	—
Median number of identical references	1	1	1	2	—
Number of gambling adverts in commercial breaks	0	0	3	40	—
Average length of adverts in commercial breaks	—	—	30 s	26 s	—
Content of references					
Logo (%)	99	100	96	99	—
Slogan or tagline (%)	0	0	12	2	—
Signpost to play (%)	<1	0	12	9	—
Specific gamble (%)	1	0	12	2	—
Event-specific gamble (%)	1	0	0	<1	—
Link to social media (%)	0	0	0	1	—
Indirect reference (%)	0	100	0	<1	—
Generic reference (%)	1	0	4	<1	—
Lower risk messages (%)	0	0	97	3	—
Age restriction message (%)	<1	0	97	3	—

^a Only one broadcast captured, so no average applicable.

^b Total references over the five broadcasts/number of televised broadcasts.

^c Total references over the five broadcasts/total length of all five televised broadcasts.

^d 60 (seconds in a minute)/average number of references per minute).

^e No references recorded in the F1 broadcast.



Fig. 1. Example of football shirt sponsorship. Source: Sky Sports.

(West Ham United vs Manchester United, 667; Bournemouth vs Crystal Palace, 974) and SPL (Rangers vs Celtic, 920), compared to the men's international friendly (England vs Italy, 9) and UEFA Champions League (Tottenham Hotspur vs Barcelona, 25). This influenced frequency, with gambling marketing references appearing more frequently in the SPL (Rangers vs Celtic, 6.18 times per minute) and EPL (Bournemouth vs Crystal Palace, 4.01 per minute; West Ham vs Manchester United, 3.95 per minute), compared to the UEFA Champions League (Tottenham vs Barcelona, 0.11 per minute) and international friendly (England vs Italy, 0.05 per minute). Broadcasts that featured two teams sponsored by gambling brands each featured over 900 references per broadcast

(Rangers vs Celtic and Bournemouth vs Crystal Palace). The most popular format of references in both these games was branded merchandise (e.g. player's shirts), which accounted for 49% references in the Rangers vs Celtic match and 38% references in the Bournemouth vs Crystal Palace match.

Across all five football matches, only 2% references were adverts during commercial breaks. There was at least one advert in each televised broadcast (range 5–13 adverts), and 40 references in total. This included some adverts which would not be permitted under the proposed 'whistle-to-whistle' ban, such as at half-time during the West Ham vs Manchester United match (which kicked off at 12:30), half-time of the Celtic vs Rangers match (which kicked off at 12:00), and at the start of half-time of England vs Italy (which kicked off at 20:00). The average length of adverts across the football broadcasts was 26 s.

Boxing

We recorded 358 gambling marketing references in the boxing broadcast, an average of 4.70 per broadcast minute or approximately once every 13 s (Table 3). The most popular location of references was in the boxing ring (48%), as there was static gambling advertisements on the ring floor, the ropes around the boundary and the corner covers (Fig. 2). William Hill was the official sponsor of the event and also the most popular brand featured (73%). Brand logos appeared in 99% of references. The median duration indicated that at least half of the references lasted for 9 s or more, which is largely attributable to the limited change in camera angles during the match action (i.e. the camera mostly rotates around in a continuous motion rather than changing shot). There were no harm-reduction messages and age-restriction messages appeared in less than 1% of references. None of the

Table 4
Number of gambling references in the individual televised football broadcasts.

	Broadcast				
	Celtic vs Rangers	England vs Italy	Tottenham vs Barcelona	West Ham vs Man United	Bournemouth vs Crystal Palace
Characteristics of references					
Total number of separate references	920	9	25	667	974
Average references per broadcast minute	6.2	0.05	0.11	4.0	4.0
Estimated frequency of references (s)	10	1133	513	15	14
References in-play (%)	81	11	0	73	78
References out-of-play (%)	19	89	100	27	22
Visual references (%)	98	11	80	97	97
Verbal references (%)	0	11	0	0	0
Both verbal and visual references (%)	2	78	20	3	3
Most frequent location of references (%)	Area-of-play (43)	Ad break (89)	Ad break (60)	Border-of-play (50)	Area-of-play (29)
Most frequent format of references (%)	Branded merch. (49)	Advert (89)	Electronic ad (36)	Static ad (44)	Branded merch. (38)
Number of different brands referenced	16	7	10	10	18
Brand referenced most frequently (%)	Multiple brands (49)	William Hill (22)	Bet365 (24)	Betway (97)	M88 (58)
Range duration references (s)	1–95	5–30	1–30	1–267	1–119
Median duration references (s)	5	30	4	6	5
Range number of identical references	1–18	1–1	1–13	1–30	1–28
Median number of identical references	2	1	1	4	2
Number of gambling adverts in commercial breaks	7 Adverts	8 Adverts	5 Adverts	7 Adverts	13 Adverts
Average length of adverts in commercial breaks	29 s	26 s	29 s	22 s	26 s
Content of references					
Logo (%)	99	89	100	100	100
Slogan or tagline (%)	2	33	19	1	3
Signpost to play (%)	9	56	28	1	13
Specific gamble (%)	2	67	20	1	2
Gamble on event (%)	<1	22	8	>1	<1
Link to social media (%)	<1	22	8	>1	1
Indirect reference (%)	<1	0	0	0	0
Generic reference (%)	0	11	0	0	0
Lower risk messages (%)	2	67	20	2	3
Age restriction message (%)	2	78	20	3	3



Fig. 2. Example of boxing sponsorship. Source: <https://www.rt.com/sport/443676-usyk-bellew-world-title/>.

gambling marketing references in this broadcast were commercial advertisements, which may have been due to the broadcast being a highlights programme.

Rugby union

We recorded 101 gambling marketing references in the rugby union broadcast, an average of 0.55 references per broadcast minute or approximately once every 109 s (Table 3). Most references featured in-play (92%). The most popular location of references was around the pitch border (98%) and the most popular format was static adverts (93%), for example, pitch-side advertising hoardings. All the references were for the National Lottery, as their brand logo appeared on pitch-side adverts for Sport Scotland, a national organisation that receives funding from the lottery (Fig. 3). The median duration of references was 2 s. There were no lower risk (0%) or age-restriction (0%) messages featured. None of the gambling marketing references were commercial advertisements. This was expected as the programme was broadcast on a non-commercial television channel (BBC One).

Tennis

We recorded 26 gambling marketing references in the tennis broadcast, an average of 0.11 references per minute or once every 545 s (Table 3). Most references appeared out-of-play (96%) and the most popular format and location of references was sponsor lead-ins (85%), all of which featured Bet365—the official sponsors of the coverage (Fig. 4). The median duration of references was 7 s. Gambling brand logos featured in 96% of references. Harm-reduction messages and age-restriction messages featured in 96%

of references. Only three of the references were commercial advertisements (12% of all references observed), all of which were 30 s in length. This included gambling adverts in periods that would not be permitted during the 'whistle-to-whistle' ban (e.g. during breaks in the match).

Formula 1

No references to gambling marketing were recorded across the entire Formula 1 broadcast.

Discussion

This is the first study to examine the frequency and nature of gambling marketing across popular sport broadcasts on TV in the UK. We found gambling marketing in all but one broadcast, although the frequency and extent of exposure varied. Boxing had the most frequent references, with gambling marketing appearing approximately every 13 s. We also found frequent gambling marketing references in football, particularly high-profile EPL and SPL matches in which teams had official gambling sponsors (e.g. on the shirts). In contrast, the tennis broadcast only featured gambling marketing approximately once every 9 min, and no references were observed in the Formula 1 broadcast because of the organisation's ban on gambling sponsorship within the sport. This ban has recently been lifted for the upcoming 2020 F1 season with online bookmaker 188Bet announced as the sport's first ever gambling sponsor after its takeover by Liberty Media in 2016.²⁸

Across the sports where gambling marketing was observed, only a small proportion of references featured in the commercial breaks or sponsorship lead-ins. As the IGRG's voluntary ban on pre-watershed advertising only applies to this small proportion, the findings suggest that it will have limited impact on the volume of gambling marketing in sport broadcasts. For example, in EFL and SPL matches where both teams had gambling shirt sponsors, there were over 900 gambling marketing references. That half of the teams in EPL in the 2019/2020 season have a gambling operator as a shirt sponsor,²⁹ suggests that these levels of exposure will continue, irrespective of the voluntary ban. We identified a sophisticated array of opportunities to promote gambling companies through sporting broadcasts. These included, but were not restricted to, pitch-side advertising, match shirts, structures around the event (e.g. manager's dugout in football) and post-match interview boards. Most references featured in high-profile locations such as pitch-side advertising or shirt sponsorship and at the point when most people would be likely to be watching (i.e. during the match action as opposed to pre-match build up or post-match discussion). This highlights the difficulties and complexity of regulating across sport broadcasts.

Research supports a link between marketing exposure and subsequent gambling behaviour,² including suggestions that

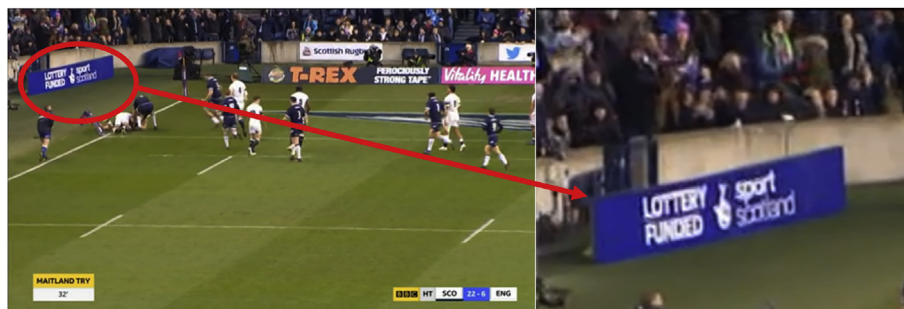


Fig. 3. Example of gambling advertising at rugby union match. Source: BBC.

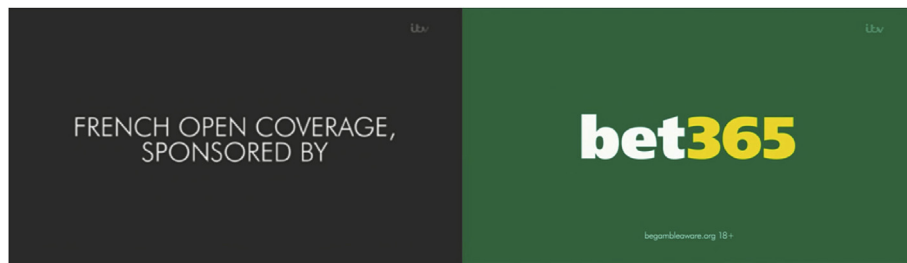


Fig. 4. Example of tennis sponsorship lead-in. Source: ITV.

marketing may act as a trigger for current gamblers or relapse among those wanting to reduce gambling behaviour.^{30,31} In response, governments in other countries have introduced statutory restrictions on gambling advertising during live sport. For example, Australia has introduced restrictions around gambling advertising during live sporting events on commercial television and radio, public-service broadcaster SBS, subscription television and online platforms,³² and Italy introduced a blanket ban on gambling sport sponsorship in July 2019.³³ That our findings show a high frequency and visibility of gambling marketing in high-profile sporting broadcasts, including in programmes broadcast before the 21:00 watershed, suggests that such statutory and mandatory restrictions may also be required to reduce exposure, and provide greater protection to young and vulnerable groups in the UK (e.g. problem gamblers). Any potential statutory ban on gambling sponsorship in the UK would need to consider the myriad of channels included in sponsorship deals. However, one potential option for policy-makers would be to introduce a ban on shirt sponsorship such as the one proposed by the Labour party in 2007³⁴ or measures similar to those introduced in Ireland as part of the Public Health (Alcohol) Act 2018, which includes restrictions on advertising during a sporting event.³⁵ This brings with it various challenges as seen in France where a ban on sponsorship by alcohol brands is regularly flouted.⁶

Although the primary purpose of sport sponsorship is to promote gambling brands and products, sports sponsorship also provides a high-profile and high-reach platform to communicate harm-reduction messages. Examples of harm-reduction messages include warning that gambling is an age-restricted activity, suggestions of controlled or reduced gambling, or signposts to sources of support (e.g. helplines or Web sites).³⁶ In this study, however, we found that frequency of these messages was very limited across all sport broadcasts, appearing in no more than 3% references in boxing, rugby and football. In particular, there were no instances of harm-reduction and age-restriction warnings in high-profile locations or in the most frequent references in the broadcasts. For example, branded shirts worn by match participants only displayed the brand logos, but not any harm-reduction message. Even when harm-reduction messages were present, they were mostly confined to commercial advertising breaks or sponsorship lead-ins which, paradoxically, would actually be removed under the voluntary ban. If sport sponsorship is permitted, minimum standards of design may be required to ensure that adequate harm-reduction messages are also provided to act as a buffer to the commercial message. However, it is important to note that present harm-reduction messages might simply be ignored³⁷ or fail to have the intended effect on behaviour.³⁸

The study has a number of limitations. The results are based on a relatively small and purposively sampled selection of sport broadcasts. Both of the EFL and SPL football matches contained teams that had gambling sponsors, and therefore the results may not be generalisable to other fixtures where this is not the case. For

boxing, a highlights programme of the main event was selected because the original full broadcast (including all the undercard fights) would have been too time consuming to code. As such, the results may not be representative of gambling marketing exposure across the entire live broadcast. The boxing highlights programme also does not provide insight into the number of commercial adverts that would have featured during the live broadcast, albeit the main event occurred after the voluntary 21:00 watershed. For Formula 1, the race was broadcast simultaneously on both a free-to-air (Channel 4) and subscription based commercial broadcaster (Sky Sports). The former was recorded for convenience and, although footage of the race would likely have been identical, the findings may not be representative of the commercial breaks on the respective broadcasters. Although we had good variety of teams and competitions for football, we only sampled one broadcast from other sports and therefore findings may not be reflective of exposure for other teams and competitions. For example, we did not include any women's sport as our intention was to include the most high-profile sporting events in the UK (i.e. largest audiences). Including broadcasts of Scottish Women's football in particular may have offered an interesting contrast to the men's game because of their public stance against sponsorship by gambling brands.³⁹

Conclusion

Televised sport broadcasts contain a high frequency of gambling marketing, only a minority of which were explicit advertisements appearing during commercial breaks and most of which do not include harm-reduction messages. The voluntary 'whistle-to-whistle' agreement introduced by the IGRG therefore does not include much of the main elements of sponsorship activity including shirt sponsorship or pitch-side advertising, most of which appeared in-play and therefore will coincide with peak audience attention. It is doubtful that this proposal will do much to reduce viewers' exposure to gambling marketing, and further mandatory restrictions may be required.

Author statements

Acknowledgements

The authors thank Kathryn Angus, Dr Crawford Moodie (University of Stirling), Professor Gerda Reith (University of Glasgow), Andy MacGregor, Hannah Biggs, Jessica Shields (All ScotCen Social Research) and Professor Agnes Nairn (University of Bristol) for their advice as part of the wider project team.

Funding

The study on which this article is based was funded by GambleAware, a national charity instructed by government to commission research into gambling in Great Britain. GambleAware is

funded through contributions from the gambling industry, but decisions about what research to fund are made by the Responsible Gambling Strategy Board (renamed in 2019 to The Advisory Board for Safer Gambling), an independent group that provides advice on gambling policy and research to government. In September 2016, the RGSB and GambleAware published a Research Commissioning and Governance Procedure, which describes how research priorities are set and commissioned, in isolation from the gambling industry.

Ethical approval

As this study was based on publicly available television broadcasts, and did not include any research participants, no ethical approval was required.

Competing interests

None declared.

Author contribution

RP designed the study, with input and support from all other authors. AM and RP led on data acquisition. NC and RP developed the coding protocol, with support from all other authors. RP and AM coded all data and established inter-rater reliability. NC was responsible for all data analysis. RP conceived and wrote the manuscript. All authors were involved in revising and editing the manuscript, and have read and approved the final version. FD was the principal investigator on the overall project, with support from MS.

References

- Gambling Commission. Gambling behaviour in Great Britain in 2015. Gambling Commission Evidence from England, Scotland and Wales 2017. Available at: <http://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-behaviour-in-Great-Britain-2015.pdf>.
- Newall PWS, Moodie C, Reith G, Stead M, Critchlow N, Morgan A, et al. Gambling marketing from 2014 to 2018: a literature review. *Curr Addict Rep* 2019;**6**:49. <https://doi.org/10.1007/s40429-019-00239-1>.
- GambleAware. Gambling advertising and marketing spend in Great Britain. London: GambleAware; 2018. p. 2014–7.
- Hastings G, Brooks O, Stead M, Angus K, Anker T, Farrel T. "They'll drink bucket loads of the stuff": an analysis of internal alcohol industry advertising documents. London: Alcohol Education Research Council; 2010. p. 26–51.
- Purves RI, Stead M, Eadie D. "I wouldn't be friends with someone If They Were Liking Too Much rubbish": a qualitative study of alcohol brands, youth identity and social media. *European Journal of Environmental Research and Public Health* 2018;**15**(2):349.
- Purves RI, Critchlow N, Stead M, Adams J, Brown K. Alcohol marketing during the UEFA EURO 2016 football tournament: a frequency analysis. *Int J Environ Res Publ Health* 2017;**29**(7):14.
- Slater M. Football's relationship with gambling 'disturbing' and 'worrying' warn experts. The Independent; 2018. <https://www.independent.co.uk/sport/football/premier-league/football-betting-premier-league-epl-football-league-efl-sponsors-kits-201819-a8470936.html>.
- Bunn C, Ireland R, Minton J, Holman D, Philpott M, Chambers S. Shirt sponsorship by gambling companies in the English and Scottish Premier Leagues: global reach and public health concerns. *Soccer Soc* 2018;**20**(6):824–35. <https://doi.org/10.1080/14660970.2018.1425682>.
- Cassidy R, Ovenden N. Frequency, duration and medium of advertisements for gambling and other risky products in commercial and public service broadcasts of English Premier League football. 2017. Retrieved from, <https://osf.io/preprints/socarxiv/f6bu8>.
- Duncan P, Davies R, Sweney M. Children 'bombed' with betting adverts during World Cup. The Guardian; 2018. <https://www.theguardian.com/media/2018/jul/15/children-bombed-with-betting-adverts-during-world-cup>.
- Lopez-Gonzalez H, Griffiths MD. Betting, forex trading, and fantasy gaming sponsorships—a responsible marketing inquiry into the 'gamblification' of English football. *Int J Ment Health Addiction* 2018;**16**(2):404–19.
- Conn D. Revealed: the 'dire consequences' of football's relationship with gambling. The Guardian; 2019. https://www.theguardian.com/football/2019/jan/10/football-gambling-dire-consequences-young-men-bet-new-study?CMP=Share_AndroidApp_Yahoo_Mail.
- Djohari N, Weston G, Cassidy R, Wemys M, Thomas S. Recall and awareness of gambling advertising and sponsorship in sport in the UK: a study of young people and adults. *Harm Reduct J* 2019;**16**(1):24. <https://doi.org/10.1186/s12954-019-0291-9>.
- Jones C, Pinder R, Robinson G. Gambling sponsorship and advertising in British football: a critical account. *Sport Ethics Philos* 2019. <https://doi.org/10.1080/17511321.2019.1582558>.
- Deans EG, Thomas SL, Derevensky J, Daube M. The influence of marketing on the sports betting attitudes and consumption behaviours of young men: implications for harm reduction and prevention strategies. *Harm Reduct J* 2017;**14**(5). <https://doi.org/10.1186/s12954-017-0131-8>.
- Hing N, Vitartas P, Lamont M. Gambling sponsorship of sport: an exploratory study of links with gambling attitudes and intentions. *Int Gamb Stud* 2013;**13**(3):281–301. <https://doi.org/10.1080/14459795.2013.812132>.
- Newall PWS. Behavioural complexity of British gambling advertising. *Addiction Res Theor* 2017;**25**(6):505–11. <https://doi.org/10.1080/16066359.2017.1287901>.
- Buhagiar R, Cortis D, Newall PWS. Why do some soccer bettors lose more money than others? *Journal of Behavioral and Experimental Finance* 2018;**18**: 85–93. <https://doi.org/10.1016/j.jbef.2018.01.010>.
- Magowan A. Gambling firms to review number of sports betting adverts after 'public concerns'. BBC Sport; 2018. <https://www.bbc.co.uk/sport/football/46290892>.
- Davies R. Labour pledges ban on TV gambling adverts during live sports. The Guardian; 2018. <https://www.theguardian.com/sport/2018/sep/20/labour-pledges-ban-on-tv-gambling-adverts-during-live-sports>.
- Industry Group for Responsible Gambling. IGRG announces 'whistle to whistle' ban on gambling advertising around live sport. 2018. <https://www.rga.eu.com/wp-content/uploads/Press-Release-IGRG-Advertising-Code-1.pdf>.
- Industry Group for Responsible Gambling. Gambling industry code for socially responsible gambling. 4th ed. 2018. Available at: <http://igrg.org.uk/wp/wp-content/uploads/2018/03/gicsrav4.pdf>.
- Graham A, Adams J. Alcohol marketing in televised English professional football: a frequency analysis. *Alcohol Alcohol* 2014;**49**:343–8.
- Garnes N. Alcohol advertising and sponsorship in Formula One: a dangerous cocktail. Brussels: Eurocare; European Alcohol Policy Alliance; 2015.
- Kelly S, Ireland M, Alpert F, Mangan J. Young consumers' exposure to alcohol sponsorship in sport. *Int J Sports Mark Spons* 2015;**16**(2):2–21. 2015.
- Lindsay S, Thomas S, Lewis S, Westberg K, Moodie R, Jones R. Eat, drink and gamble: marketing messages about 'risky' products in an Australian major sporting series. *BMC Publ Health* 2013;**13**:719.
- Stemler S, Tsai J. Best practices in estimating interrater reliability. In: Osborne J, editor. *Best practices in quantitative methods*. Thousand Oaks, CA, USA: Sage Publications; 2008. p. 29–49.
- Ahmed M. Formula One strikes \$100m deal to sell betting sponsorships. Financial Times; 2018. <https://www.ft.com/content/25f26274-ba71-11e8-8274-55b72926558f>.
- Davies R. Half of Premier League clubs to have gambling sponsors for 2019–20 season. The Guardian; 2019. <https://www.theguardian.com/football/2019/jul/19/half-of-premier-league-clubs-to-have-gambling-sponsors-for-201920>.
- King D, Delfabbro P, Griffiths M. The convergence of gambling and digital media: implications for gambling in young people. *J Gamb Stud* 2010;**26**(2): 175–87. <https://doi.org/10.1007/s10899-0099153-9>.
- McMullan JL. Gambling advertising and online gambling. Submission to the Joint Select Committee on Gambling Reform in Australia; 2011.
- Australian Government. Gambling advertising. Department of Communications and the Arts; 2017. <https://www.communications.gov.au/what-we-do/television/broadcast-and-content-reform-package>.
- Kelly T. Italy bans advertising on all forms of gambling as part of new 'dignity decree' after populist 5-star leader said betting destroys families. 2018. Mail Online, <https://www.dailymail.co.uk/news/article-5921655/Italy-bans-gambling-adverts-Luigi-Di-Maios-new-dignity-decree.html>.
- Davies R. Ban betting firms from sponsoring shirts, says Labour. The Guardian; 2017. <https://www.theguardian.com/society/2017/sep/06/ban-betting-firms-football-shirts-labour-gambling>.
- Oireachtas. Public Health (Alcohol) Act. 2018. Available at: <http://www.irishstatutebook.ie/eli/2018/act/24/enacted/en/pdf>. [Accessed 23 January 2020].
- Critchlow N, Moodie C, Stead M, Morgan A, Newall PWS, Dobbie F. Visibility of age restriction warnings, harm reduction messages, and terms and conditions: a content analysis of paid-for gambling advertising in the United Kingdom. Public Health; 2019 (forthcoming).
- Lole L, Li E, Russell AM, Greer N, Thorne H, Hing N. Are sports bettors looking at responsible gambling messages? an eye-tracking study on wagering advertisements. *Journal of Behavioral Addictions* 2019;**8**(3):499–507.
- Newall PWS, Walasek L, Singmann H, Ludvig EA. Testing a gambling warning label's effect on behavior. 2019. Retrieved from PsyArXiv, 3 Aug. 2019. Web.
- Bbc Sport. Scottish women's football 'will reject alcohol or gambling sponsors'. BBC Sport; 2018. <https://www.bbc.co.uk/sport/football/45704266>.